

RECEIVED
JUN 11 1922
U. S. NATIONAL MUSEUM

JOURNAL
OF THE
WASHINGTON ACADEMY OF SCIENCES

VOL. 12

JUNE 4, 1922

No. 11

BOTANY.—*New Passifloras from Mexico and Central America.*¹ E. P. KILLIP, National Museum. (Communicated by William R. Maxon.)

For some time past the writer has been engaged in a study of the tropical North American species of *Passiflora*, with particular reference to Mexico and Central America, a region from which few species have been described since Master's comprehensive revision of the American species in 1872. Since the publication of final results is unavoidably delayed, it seems advisable to publish in advance descriptions of certain of the new species, in order that the names may be available.

Passiflora (Cieca) apetala Killip, sp. nov.

Glabrous throughout; stem angulate, grooved; tendrils solitary; stipules setaceous, 2 to 4 mm. long; petioles 1.5 to 3 cm. long, glandless; leaves broadly cuneate in outline, 3 to 7 cm. long, 2 to 6 cm. broad, bilobate (lobes subapproximate, one-half to quite as long as the undivided portion of blade, obtuse, mucronate), at base subrotund or cuneate, membranaceous, strongly 3-nerved; peduncles in pairs, slender, 2 cm. long; bracts setaceous, deciduous, 2 to 3 mm. long; flowers small, 1.2 to 1.8 cm. wide; sepals oblanceolate, 6 mm. long, 2.5 mm. broad, yellowish green, inconspicuously nerved; petals none; filaments of faucial corona in a single series, filiform, 2.5 mm. long; middle corona membranaceous, plicate, strongly incurved about base of gynophore; basal corona annular; gynophore slender, glabrous, 3 mm. high; filaments capillary, 2 mm. long, the anthers ovate, 1.5 mm. long; ovary depressed-globose, 1 mm. in diameter, glabrous; styles 2.5 mm. long, filiform, the stigmas semiorbicular; fruit black, globose, 8 to 10 mm. in diameter; seeds broadly ovate, 2.5 mm. long, 2 mm. broad, transversely rugose with 6 or 7 nearly parallel ridges.

Type in the U. S. National Herbarium, no. 358,766, collected on Mount Irazú, Costa Rica, altitude 1,000 meters, December 11, 1898, by H. Pittier (no. 13,043); distributed as *P. dichophylla*.

The foliage of this plant resembles that of certain species of the section *Decaloba* with bilobate leaves, notable *Passiflora ornithoura*, and is unlike that of most of its apetalous allies. From *Passiflora ornithoura* it is dis-

¹ Published by permission of the Secretary of the Smithsonian Institution. Received May 3, 1922.

tinguished not only by the absence of petals but by its longer and narrower sepals and the longer, filiform threads of its faucial corona.

***Passiflora arida* (Mast. & Rose) Killip.**

Passiflora foetida arida Mast. & Rose, Contr. U. S. Nat. Herb. 5: 182. 1899.

Recent collections from Lower California and northwestern Mexico indicate that this plant is sufficiently distinct from *Passiflora foetida* to deserve specific rank.

***Passiflora* (*Dysosmia*) *fruticosa* Killip, sp. nov.**

Low shrub with an erect caudex, 20 to 40 cm. high, and a few short, sprawling branches; branches and tendrils densely white-lanate; stipules semiannular about the stem, deeply cleft into filiform, gland-tipped divisions; petioles 5 to 15 mm. long, densely lanate, destitute of true petiolar glands but bearing numerous gland-tipped hairs; leaves orbicular in outline, usually 1.5 to 2 cm. long and broad, rarely up to 3.5 cm., 3-lobed (lobes subequal, rounded), at base cordate, 3 to 5-nerved, densely glandular-ciliate, lanate with soft, white to dark brown wool, glutinous; peduncles 1 to 2.5 cm. long; bracts 2- or 3-pinnatisect, hirsute, copiously covered with gland-tipped hairs; flowers 2.5 to 3 cm. in diameter; sepals ovate-lanceolate, 1 to 1.3 cm. long, 0.6 cm. broad at base, densely velvety-pubescent without, glabrous within; petals 5 to 7 mm. long, 4 mm. broad, obovate, glabrous; filaments of faucial corona in several series, the outer two or three about 1 cm. long, filamentous, the succeeding series minute, capillary, 1.5 to 2 mm. long; middle corona membranous, not folded, the apex minutely denticulate; basal corona membranous, 1.5 mm. high, the margin entire, recurved; ovary subglobose, silky-pubescent; fruit globose, 2.5 cm. in diameter, densely pubescent with long, silky hairs; seeds oblong, minutely 3-toothed at the apex, truncate at the base, flattened, 5 mm. long, 2.5 mm. broad, reticulate with about 25 meshes to each face.

Type in the U. S. National Herbarium, no. 638,347, collected at Santa María Bay, Lower California, March 19, 1911, by J. N. Rose (no. 16,285).

In addition to the type, specimens from Espíritu Santo, Magdalena Island, and San Francisco Island have been examined. Its shrubby aspect and extreme oiliness, resulting from numerous gland-tipped hairs, distinguish this species from *Passiflora arida*, while its smaller flowers, its proportionately broader petals, and longer faucial corona threads differentiate it from *P. palmeri*.

***Passiflora* (*Plectostemma*) *cookii* Killip, sp. nov.**

Glabrous throughout; stem terete, striate, glaucous; stipules reniform, 1.5 cm. long, 3 cm. broad, glaucous, crenate; petioles 3 to 4 cm. long, glandless; leaves broadly ovate, 8 cm. long, 6 to 7 cm. broad, very obscurely 3-lobed (middle lobe deltoid, obtuse, mucronulate), at base truncate, dark green above, glaucous beneath, peltate about 1.2 cm. from base, quintuplinerved; peduncles about 8 cm. long; bracts not seen; flowers white, 3.5 to 4.5 cm. wide; sepals ovate-lanceolate, 1.5 cm. long, 1 to 1.2 cm. broad, obtuse; petals ovate-lanceolate, abruptly narrowed at the base, obtuse, 1.5 cm. long, 0.8 cm. broad, white, spotted with red; filaments of faucial corona in 2 series, those of the outer series 1 cm. long, dilated at the apex, those of

the inner barely 3 mm. in length, capitate; middle corona membranous, plicate, the apex incurved, fimbriate; basal corona annular; gynophore 1 cm. high; filaments linear, 6 mm. long, 1.6 mm. wide, white, spotted with red; anthers oblong, 5 mm. long, 2.5 mm. broad; ovary subglobose; styles filiform, 4 mm. long; stigmas reniform, 1 mm. in diameter.

Type in the U. S. National Herbarium, no. 408,302, collected near Finca Sepacuité, Alta Verapaz, Guatemala, April 13, 1902, by O. F. Cook and R. F. Griggs (no. 593).

But one specimen of this species has been examined and upon this no bracts were present. In other respects it bears a strong resemblance to *P. hahnii* and it is to be suspected that it has foliaceous deciduous bracts. It may be distinguished from *P. hahnii* by its larger, crenate stipules, the glaucous under surface of the leaves, and its smaller flowers. From *P. membranacea*, another species of this group, it differs in its spreading sepals and petals, its shorter peduncles, and in the elongate middle lobe of its leaves.

***Passiflora (Plectostemma) costaricensis* Killip, sp. nov.**

Stem angulate, hirsute with long, spreading, light-brown hairs, glabrescent below; stipules subulate, 6 to 8 mm. long; petioles 1.5 to 2 cm. long, densely hirsute, glandless; leaves oval or suborbicular-oval in outline, 9 to 13 cm. long, 7 to 11 cm. broad, 2-lobed (lobes deltoid, acute or acuminate, mucronate, extending about one-third the length of blade, subapproximate, the terminal sinus nearly semicircular), at base rounded, 3-nerved, membranous, hirsute, especially beneath; peduncles solitary, 1.5 cm. long, articulate at the middle, sparingly pilose; bracts none; flowers 4.5 to 5 cm. wide; sepals linear-lanceolate, 2 cm. long, 0.4 cm. broad, obtuse, hirsute without, glabrous within, the central portion dark green, the margin hyaline, white; petals linear-oblong, 8 mm. long, 2 mm. broad, obtuse, hyaline; filaments of faucial corona in a single series, narrowly ligulate, as long as the petals; middle corona closely plicate, the margin incurved; basal corona annular; ovary minutely puberulent; fruit ellipsoidal, 7 to 8 cm. long, 1 to 1.5 cm. in diameter at the middle, long-tapering at both ends; seeds slightly flattened, narrowly oblong, 3 mm. long, 1.5 mm. broad, black, shining, transversely rugose with 6 or 7 ridges, the ridges smooth, parallel, the axis curved, the beak 0.9 mm. long, recurved.

Type in the U. S. National Herbarium, no. 941,592, collected in the forests of Xirores, Talamanca, Costa Rica, February, 1895, by A. Tonduz (no. 9327).

ADDITIONAL SPECIMENS EXAMINED:

GUATEMALA: Cubilquitz, Alta Verapaz, alt. 350 meters, September, 1901, *von Tuerckheim* (J. D. Smith, no. 7877).

COSTA RICA: Las Vueltas, Tucurrique, January, 1899, *Tonduz* 13,146. Between La Junta and Florida, July 11, 1920, *Rowlee & Stork* 619. Livingston, on Río Reventazon, July 11, 1920, *Rowlee & Stork* 723.

This species is to be distinguished from *Passiflora capsularis* by the shape of the leaves and the character of the faucial corona. In *P. costaricensis* the leaves are longer than broad and are rounded at the base; they have a semicircular sinus, formed by relatively approximate lobes. In *P. capsu-*

laris the leaves are broader than long and are cordate at the base; they have an irregular sinus, formed by widely divergent lobes and a more or less prominent intermediate lobe. The faucial corona filaments are 2-ranked in *P. costaricensis* and 1-ranked in *P. capsularis*.

***Passiflora* (*Plectostemma*) *heydei* Killip, sp. nov.**

Stem obscurely 4-angled, grooved, glabrate below, sparingly hispidulous above; tendrils solitary, glabrate or hispidulous; stipules in pairs, oblong-falcate, 6 mm. long, 3 mm. broad, long-cuspidate, minutely hispidulous, sparsely ciliate; petioles 2 to 5 cm. long, flattened, hispidulous, biglandular, the glands borne within 1 cm. of the apex, clavate, 1.5 mm. long, 0.8 to 1 mm. in diameter; leaves suborbicular-ovate or deltoid in outline, 5 to 8 cm. long, 6 to 10 cm. broad, 3-lobed to slightly below the middle (lobes acute, the central one ovate or ovate-lanceolate, narrowed or frequently broadest at the base, the lateral divergent at an angle of about 70° from the midrib), deeply cordate at base, 3-nerved, repandly dentate or denticulate with mucronulate teeth, membranous, dark green and hispidulous with minute hooked hairs above, paler and densely soft-pubescent beneath; penduncles in pairs, densely hispidulous, 1.5 to 2 cm. long, spreading at right angles; bracts 3, setaceous, 2.5 to 3 mm. long, borne about 1 cm. below the base of the flower, approximate or the uppermost slightly remote; flowers about 2 cm. wide; sepals linear-oblong, 1 to 1.3 cm. long, 3 mm. broad, obtuse, densely hispid and green outside, inside glabrous, white, mottled with red, the apex terminating in a horn about 3.5 mm. long; petals linear-lanceolate, 7 mm. long, 2 mm. broad, obtuse, white (?); filaments of faucial corona in a single series, capillary, 5 to 6 mm. long; middle corona membranous, plicate, the margin slightly incurved, crenulate; secondary middle corona annular, midway between the preceding and the base of the gynophore; basal corona arising at the base of the gynophore, membranous, adnate to the floor of the tube, at length free, 2 mm. long; gynophore glabrous, 4 or 5-angled, about 1 mm. in diameter, swollen at the base to a diameter of 2 mm.; anthers ovate, 2 mm. long, 1.5 mm. broad; ovary subglobose, densely hispidulous, glaucous; fruit globose, 2 cm. in diameter, hispidulous, glaucous; seeds somewhat compressed, obovoid, 4 mm. long, abruptly tapering at the base, mucronate at the apex, reticulate, the central mesh or the 2 central meshes 1 mm. in diameter, the surrounding 8 or 9 meshes averaging 0.8 mm. in diameter.

Type in the U. S. National Herbarium, no. 207,154, collected at Casillas, Department of Santa Rosa, Guatemala, September, 1892, by Heyde and Lux (J. D. Smith, no. 3772); distributed as "*Passiflora sicyoides* Cham.? aut n. sp.?" Duplicates in the Gray and John Donnell Smith herbaria.

In the shape of its leaves and the size of its seeds this species resembles *P. exsudans* Zucc. It is readily distinguished by the location of the petiolar glands at the apex of the petioles and by its densely hispidulous, glaucous fruit.

***Passiflora* (*Plectostemma*) *panamensis* Killip, sp. nov.**

Glabrous throughout; stem angulate, grooved, flexuous; tendrils filiform, very slender; stipules linear-falcate, 4 to 5 mm. long; petioles 1.5 to 2.5 cm. long, glandless; leaves suborbicular in outline, 5 to 8 cm. long, 5 to 7 cm. broad, 3-lobed (the lobes approximate, subequal or the middle slightly

longer, about one-third the length of blade, triangular, acute or somewhat obtuse, mucronate), rounded or subpeltate at base, subpergamentaceous, 3-nerved, ocellate beneath; peduncles 2.5 to 4 cm. long, articulate about 6 mm. below the flower; bracts setaceous, deciduous, two borne at the point of articulation, the third near the middle of the peduncle; flower about 3 cm. wide; sepals oblong-lanceolate, 1.2 to 1.4 cm. long, 6 to 7 mm. broad, obtuse, yellowish green; petals rose-colored, spatulate, 8 mm. long, 3 to 4 mm. broad; filaments of faucial corona in 2 series, the outer 7 mm. long, dilated and 3-angled toward the apex, the inner 3 mm. long, capillary and minutely capitate; middle corona membranous, pink, plicate, erect, crenulate; basal corona annular; anthers linear-oblong 2.5 to 3 mm. long; ovary globose sparingly strigillose; styles subangulate, 3.5 mm. long; fruit globose, 2 cm. in diameter, glabrate; seeds straw-colored, obovate, apiculate, strongly flattened, transversely rugose with about 6 sharp somewhat rugulose ridges.

Type in the U. S. National Herbarium, no. 715,818, collected along the Sambú River, southern Darién, Panama, above the tide limit, February, 1912, by H. Pittier (no. 5556).

The lobation of the leaves of this species differs materially from that of its nearest allies. The arrangement and appearance of the corone suggest *P. biflora*, but the flower is larger, the petals are rose-colored, and the leaves are distinctly 3-lobed, the middle lobe generally being slightly the largest.

***Passiflora* (*Plectostemma*) *rovirosae* Killip, sp. nov.**

Stem 4-angled, striate, glabrate below, pubescent or pilosulous above; stipules narrowly falcate-subulate, 8 to 10 mm. long; petioles densely pubescent, 1.5 to 2 cm. long, glandless; leaves subtruncate-ovate in outline, 8 to 10 cm. long, 6 to 7 cm. broad, bilobate (lobes one-eighth to one-quarter the length of blade, somewhat divergent, acute, mucronulate), deeply cordate at base, slightly narrowed toward apex, membranous, above dark green, glabrate, or puberulent on the nerves, beneath pale, densely pubescent or tomentulous; peduncles 1 to 1.5 cm. long, 1-flowered, in pairs on short, axillary, often leafy, puberulent branches 1 to 2 cm. long, the inflorescence thus appearing racemose; bracts none; flowers 3 to 4 cm. wide; sepals oblong, 1.3 to 1.5 cm. long, 0.4 cm. broad, obtuse; petals oblong, obtuse, 0.9 to 1.1 cm. long, 0.3 cm. broad; filaments of faucial corona in two series, the outer filiform, about 1 cm. long, the inner capillary, barely 4 mm. long; middle corona membranous, erect, 4 to 5 mm. high, closely plicate; basal corona annular; gynophore angled, 7 mm. high, glabrous; ovary narrowly ovoid, 6-angled, canescent; anthers oblong, 4 mm. long, 1.5 mm. broad; styles capillary, 6 mm. long; stigmas reniform, 2 mm. broad; fruit ellipsoid or fusiform, tapering at both ends, 4 to 5 cm. long, 1.2 to 1.5 cm. in diameter at the middle.

Type in the herbarium of the Academy of Natural Sciences, Philadelphia, collected at Atasta, Tabasco, Mexico, June 15, 1890, by J. N. Rovirosa (no. 813). Photograph in U. S. National Herbarium.

ADDITIONAL SPECIMEN EXAMINED:

VERACRUZ: Misantla, *Purpus* 5881.

The fruit of this species indicates relationship with *Passiflora capsularis*,

from which it can be distinguished by its longer leaves and by the inflorescence. Its peduncles are borne in pairs on short, axillary branches, rather than singly in the axils of the leaves of the main stem.

***Passiflora* (*Plectostemma*) *talamancensis* Killip, sp. nov.**

Stem angulate, striate, minutely puberulent; stipules linear-subulate, 3 to 8 mm. long; petioles 1 to 2 cm. long, puberulent or tomentellous, glandless; leaves cuneate-obovate or cuneate-oval in outline, 6 to 12 cm. long, 3 to 7 cm. broad, very shortly 3-lobed or 3-toothed at apex (middle lobe normally longest, 5 to 10 mm. long, usually deltoid), cuneate or rounded at base, narrowed above the middle, subcoriaceous, glabrous and lustrous above, dull and puberulent beneath, strongly 3-nerved, ocellate beneath; peduncles slender, 2 to 4 cm. long; bracts setaceous, 2 mm. long, deciduous; flowers 2.5 to 3.5 cm. wide; sepals oblong, obtuse, about 1.5 cm. long, 0.5 cm. broad, green without, white within; petals two-thirds as long as the sepals, white; filaments of faucial corona in two series, those of the outer series falcate-spatulate, 5 to 7 mm. long, white (?), those of the inner series capillary, 1.5 mm. long, white, purple at the tips; middle corona close to the faucial, membranous, plicate, 2 mm. long, erect, the margin minutely crenulate, slightly recurved; basal corona annular; gynophore glabrous, purple-striate; ovary globose, densely tomentellous; styles filiform, 4 mm. long; stigmas reniform; seeds ovate, 4 mm. long, 2 mm. broad, transversely rugose with 6 or 7 minutely rugulose ridges, asymmetrical, the margin bearing a single knob on one side just below the apex.

Type in the U. S. National Herbarium, no. 941,600, collected in forests at Xirores, Talamanca, Costa Rica, at an altitude of 100 meters, February, 1895, by A. Tonduz (no. 9329).

In texture the foliage of this species resembles that of *Passiflora trisetosa*. The leaves, however, are larger and more elongate, and the central lobe is much more prominent. The flowers of the two species present certain important differences. *P. talamancensis* has a 2-ranked faucial corona, an erect middle corona, and a globose, softly tomentellous ovary. *Passiflora trisetosa* has a single-ranked faucial corona, an incurved middle corona, and an ovoid, strigillose ovary.

***Passiflora* (*Granadilla*) *platyloba* Killip, sp. nov.**

Stem stout, terete, striate, glabrous; stipules coriaceous, narrowly linear, 1 to 1.2 cm. long, strongly 3-nerved, orange-yellow, deciduous; petioles 6 to 7 cm. long, glabrous, bearing about 2 cm. above the base two sessile, flattened glands 2 mm. in diameter; leaves suborbicular-ovate in outline, 10 to 14 cm. long, 12 to 18 cm. broad, 3-lobed to the middle (the central lobe broadly ovate, abruptly acuminate, mucronate, 8 to 9 cm. long, 7 to 8 cm. broad, the lateral lobes divergent from the midrib at an angle of about 45°), at base deeply cordate, crenulate or subentire, biglandular in the sinuses, 3 to 5-nerved membranous, glabrous; peduncles solitary, 6 to 7 cm. long; bracts ovate, entire, 5 to 6 cm. long, 3 to 4 cm. broad, membranous, attached 1 cm. below the apex of the petiole, completely enveloping the flower, united for about 2 cm., acute, densely puberulent on both surfaces; flower purple, 4 to 5 cm. in diameter, the tube 1 cm. long; sepals oblong-lanceolate, 1.8 to 2 cm. long, 0.8 cm. broad, slightly fleshy, obtuse, strongly keeled, the keel terminating in a

setaceous awn 5 to 6 mm. long; petals linear-lanceolate, 1.5 to 1.7 cm. long, 0.5 cm. broad, thin, obtuse; filaments of faucial corona in several series, the outermost slender, filiform, 7 mm. long, the second series stout, liguliform, attenuate at apex, 1.5 cm. long, white, banded transversely with purple, the succeeding series of about 6 irregular rows of minute tubercles less than 1 mm. long; middle corona arising at base of the innermost of the latter rows, 0.75 mm. long, the margin erect, denticulate; secondary middle corona annular, midway between the preceding and base of gynophore, the margin entire; basal corona fleshy, closely surrounding and adnate to the lower part of gynophore, 3 mm. high, the margin free, erect; gynophore stout, grooved, glabrous, bearing 1 mm. above the margin of the basal corona a single annular process 0.4 mm. wide; filaments flattened, 7 mm. long, 1.2 mm. wide; anthers linear, 10 mm. long, 2 mm. broad; ovary ellipsoidal, glabrate.

Type in the U. S. National Herbarium, no 678,715, collected at La Blasa de Río Grande, Province of Alajuela, Costa Rica, June 2, 1911, by H. Pitier (no. 3653).

This species resembles 3-lobed forms of *Passiflora seemanni*. Its bracts are much longer and completely envelop the flower; they are of a thicker texture, are acute rather than rounded at the apex, and are densely puberulent on both surfaces. The sinuses between the central and the lateral leaflobes are biglandular. In *Passiflora platyloba* the lower portion of the faucial corona consists of 4 or 5 definite rows of tubercles; in *P. seemanni* the tubercles are densely massed, apparently not being arranged in any definite order.

***Passiflora* (*Granadilla*) *purpusii* Killip, sp. nov.**

Stem terete, striate, glabrate; stipules in pairs, foliaceous, semiovate, rounded at the base, cuspidate, 2.2 to 2.5 cm. long, 1 cm. broad, glabrous, dark green above, glaucous beneath; petioles 4 to 4.5 cm. long, glabrous, bearing in the upper half 4 to 6 stipitate glands 1.2 mm. long; leaves ovate, 10 to 13 cm. long, 5 to 9 cm. wide, long-acuminate, entire, shallowly cordate, membranous, above dark green and glabrous or minutely scabrous on the nerves, beneath glaucescent, pilosulous or occasionally glabrous, quintuplinerved from base; peduncles 3 to 3.5 cm. long, glabrous; bracts free to the base, ovate-oblong, about 1.5 cm. long, 7 mm. wide, glabrate, dark green above, glaucous beneath; flowers 4 to 5 cm. wide; sepals lanceolate or narrowly ovate-lanceolate, 2 cm. long, united at base for a distance of about 6 mm., cucullate at apex, keeled on the outer surface, the keel terminating in an incurved awn 5 mm. long; petals linear, 1 to 1.2 cm. long, 3 to 4 mm. broad; filaments of faucial corona in about four series, those of the outermost series narrowly linear, filiform at the tips, 1.2 to 1.5 cm. long, those of the succeeding series narrowly linear, slightly capitellate, nearly equal in length, 3 mm. long; middle corona membranous, erect or slightly incurved, the upper half cleft into linear threads; secondary middle corona a minute fleshy ring on the floor of the flower tube, halfway between middle corona and basal corona; basal corona membranous, erect, closely surrounding base of gynophore, 5 mm. high, the margin flaring outward, crenulate; gynophore glabrous, 1.3 to 1.5 cm. long (at anthesis); anthers linear, 8 mm. long, 2 mm. broad; ovary ovoid, glabrous; styles 8 mm. long; stigmas reniform; fruit not seen.

Type in the U. S. National Herbarium, no. 877,596, collected at Zacuapan, Veracruz, Mexico, June, 1916, by C. A. Purpus (no. 7664). Duplicate in the herbarium of the University of California. *Purpus* 3689, from the same locality, is also this species.

***Passiflora* (*Granadilla*) *williamsii* Killip, sp. nov.**

Stem stout, terete, minutely puberulent; stipules filiform, 6 to 7 mm. long; petioles 4.5 cm. long, densely puberulent, biglandular about 1 cm. from the base, the glands orbicular, appressed, 2 mm. in diameter; leaves broadly ovate in outline, 10 cm. long, 9 to 10 cm. broad, 3-lobed to middle (lobes acute, the middle one narrowed at base), serrulate, biglandular in the sinuses, at base truncate or slightly subcordate, 3-nerved, membranous, the upper surface glabrate, puberulent on the nerves, the lower surface minutely puberulent; peduncles 3 cm. long, densely pubescent; bracts united at the base, the free part 2 cm. long, 1.5 cm. broad, tomentulose on both surfaces; flowers about 6 cm. wide, the tube 1.2 cm. long; sepals oblong, 2.5 to 3.5 cm. long, 1.2 to 1.5 cm. broad, obtuse, puberulent without, glabrate within, inconspicuously keeled, slender-awned about 2 mm. from the apex, the awn 3 mm. long; petals oblong-spatulate, 2 cm. long, 5 mm. broad, greenish without, within white, spotted with dark pink; filaments of faucial corona in several series, the outermost terete, 6 to 7 mm. long, white, transversely banded with blue, the next series dilated at the middle, 2 to 2.5 cm. long, the succeeding series minute, tuberculate, 1.5 mm. high; middle corona arising close to the faucial, membranous, horizontally spreading inward, 2 mm. long, the margin entire, curved downward; secondary middle corona annular, midway between the preceding and the base of the gynophore; basal corona fleshy, closely surrounded and adnate to the lower part of the gynophore, 5 mm. high, the margin free, erect; gynophore 1.5 to 2 cm. high, 2 mm. in diameter, bearing about 7 mm. above its base a fleshy annular process 0.5 mm. wide, its margin recurved; filaments linear-spatulate, flattened, 1.5 mm. broad; anthers oblong, obtuse at both ends, 8 mm. long, 3 mm. wide; ovary narrowly ovoid, densely white-tomentulose; styles terete, glabrous; stigmas globose, 3 mm. in diameter.

Type in the herbarium of the New York Botanical Garden, collected at Bismarck, above Penonomé, Panama, altitude 600 to 925 meters, March 5 to 19, 1908, by R. S. Williams (no. 585). Photograph in the U. S. National Herbarium.

Passiflora williamsii belongs to the group of the subgenus *Granadilla* which is characterized by partially united bracts. From *P. seemanni*, *P. platyloba*, and *P. ligularis*, the other representatives of this group, it is readily distinguished by its leaves, which are truncate or very shallowly cordate at base and densely puberulent beneath. In the three other species the leaves are deeply cordate and entirely glabrous.

ZOOLOGY.—*New species and subspecies of Sorex from western America.*¹ HARTLEY H. T. JACKSON, Bureau of Biological Survey.

Investigations upon American Soricidae for the United States Bio-

¹ Received April 27, 1922.